

but, on the whole, the conference quite fulfilled the expectations and the object of those who arranged it.

The hall was even more crowded, with an audience even more interested, on Tuesday morning, when Miss Menie Muriel Dowie read her paper on a journey in the Eastern Carpathians. It is the fashion in certain quarters to regard Europe as beyond the pale of geography; but to all but a very few of those who listened to Miss Dowie's delightful paper, what she had to tell about the Carpathians and their people was as new as Mr. Stanley's account of his great African forest.

Africa, of course, occupied a prominent place in the proceedings of the Section, one whole day being devoted to it. Dr. Kerr Cross, who has been stationed for many years in the Lake Nyassa region, and is well qualified for scientific observation, read a paper on the interesting plateau country lying between Lakes Nyassa, Hikwa or Leopold, and Tanganyika. The paper gave a most instructive picture of the extensive and varied area with which Dr. Cross is familiar. The information he gave about the little-known Lake Hikwa, east of the south end of Tanganyika, was specially valuable, as it had only been seen at a distance before by Mr. Joseph Thomson and a German explorer. It is brackish, of a long curved shape, and lies in a deep depression of the plateau, its basin being a parched-up wilderness. Though there has been abundant rain on the plateau around, for three years not a drop has fallen in the lake valley. Mr. E. A. Maund described in some detail Matabeleland, where he himself has resided for some years. Dr. R. A. Freeman's account of his journeys in Ashanti and neighbouring regions was of special novelty and value. The paper described a journey through a tract of country in and to the north of Upper Guinea, comprising the territories of Fanti, Assin, Adansi, Ashanti, Jaman, and Gruiinsi. The tract extends from 5° N. to 10° N., and from 0° to 4° W. The first four countries are inhabited by various branches of the great Otshwi family, and the remainder by certain pagan aboriginal tribes, and by numbers of Wongara or Mandingo immigrants. Journeying from Cape Coast, through Ashanti to Bontuku, the capital of Jaman, the author crossed three zones of country: (1) open country covered with low bush about 30 miles broad; (2) dense forest about 180 miles broad; (3) open park-like country which, alternating with grassy plains, seems to occupy the greater part of Central and Eastern Africa. On arrival at Kumassi, the capital of Ashanti, the author was received by the king and principal chiefs with great ceremony, the court of Kumassi retaining much of its former splendour. The town of Kumassi is much dilapidated, but presents many relics of great interest. Jaman is a kingdom situated to the north-west of Ashanti, about 9300 square miles in extent; its capital, Bontuku, is a large town closely resembling in appearance the towns of the Tawarek and Upper Niger. It is inhabited almost exclusively by Mahomedans, and forms an important slave depot, as do also the Gruiinsi towns of Wa and Bori. The commercial resources of the tract of country here described are considerable; over the whole of it gold is fairly plentiful, and the forest abounds in rubber plants both in the form of trees and vines. Hard woods are very plentiful, and are of great value in Europe, notably the Odum and Pappao, both of which trees reach a height of nearly 200 feet. The Kola nut also, which grows abundantly in the forest, has a great and increasing commercial value. The country is intersected by several considerable rivers which might be easily rendered navigable, and thus form great highways of trade. There are, moreover, no special obstacles to the construction of railways, and the district may thus be expected to form one of the great commercial centres of the future.

Mr. J. S. Keltie's paper on the Commercial Geography of Africa dealt with the varied physical conditions of the continent, and endeavoured to indicate the bearings of these on its industrial development and colonization. It was shown that the vast tropical region, in which Nature is most exuberant, is of insignificant commercial value compared with the countries along the Mediterranean and the region south of the Zambesi. Central Africa will only become of commercial value when, as in North and South Africa, man is able actively to interfere; the spontaneous animal and vegetable products of tropical countries can never be of great commercial importance.

Mr. A. Silva White followed with a paper showing in detail the partition of Africa among the Powers of Europe.

Two other papers of special African interest were read by Mr. Cope Whitehouse and Dr. Schlichter. The former sought

to prove that in the oldest Ptolemaic maps a depression (Lacus Meridis) is shown, exactly corresponding to the Wadi Rayan and Wadi Mullah. Dr. Schlichter, in an elaborate paper, discussed the whole subject of Ptolemy's knowledge of North-East Africa, and sought to show that many of his positions exactly corresponded with those of modern maps, obtained by quite recent explorations.

There were three papers connected with Asia. Mr. Theodore Bent's paper on his recent explorations in North-Eastern Cilicia was mainly of an archaeological character. Sir Frederic Goldsmid read a paper on a railway through Southern Persia, as a link of communication in the great railway route that will one day connect England with India. Surveys and reports by recent travellers have rendered it easy to supply this link, which may be appropriately called the Baghdad-Bandar-Abbas section, or, more minutely, the Baghdad-Shiraz and Shiraz-Bandar-Abbas sections. As to the route from Bandar-Abbas to Karachi on the east, and from Tripoli to Baghdad on the west, any doubts or difficulties that present themselves are already ripe for discussion, and their solution cannot be treated as dependent upon further travel and research. It is proposed to carry the line from Baghdad through Persian Arabistan, either by way of Dizful and Shustar, continuing along the recognized track from the latter place to Bebehan; or by an alternative route down the left bank of the Tigris, and *via* Haweizah to Ahwaz, whence Major Wells, R.E., has furnished full details of route from his own experiences. The same officer has made, moreover, very valuable suggestions on the mode of reaching Shiraz from Bebehan.

Mr. H. F. B. Lynch dealt with an allied subject in his paper on new trade routes into Persia. In the course of the paper Mr. Lynch, from his own personal knowledge, gave much information as to the physical geography of Persia, and especially the region watered by the Karun River.

South America was dealt with in two papers. Mr. J. W. Wells described the physical geography of Brazil in its bearing on the industrial development of the country, and M. A. Thouar sent an abstract narrative of his journeys during the past few years in the Argentine, Peru, and Bolivia.

Mr. Coutts Trotter gave a most useful summary of exploration in British New Guinea in recent years, dealing mainly with Sir W. Macgregor's journey to the summit of the Owen Stanley Range, already described in NATURE.

Dr. H. R. Mill gave a *résumé* of his investigations on the vertical relief of the globe, details of which have been published in the *Scottish Geographical Magazine*. He also gave an interesting account of his observations on the methods of teaching geography in Russia and of Russian geographical text-books.

Mr. Henry T. Crook's paper on the present state of the Ordnance Survey, and the paramount necessity for a thorough revision, led to the Sectional Committee's requesting the Council of the Association to move the Government to take steps for the rapid completion of the Survey, and for rendering the Ordnance maps much more accessible for purchase by the general public than they are at present.

ANTHROPOLOGY AT THE BRITISH ASSOCIATION.

ON Thursday, September 4, after the President's address, a paper by the Rev. F. O. Morris, on the doctrine of hereditism was read, and gave rise to a lively discussion, or rather a chorus of condemnation of the views advanced by the author.

In a paper by Mr. Horatio Hale, which forms the introduction to the Report of the North-Western Tribes of Canada Committee, attention was called to some of the chief peculiarities of British Columbian ethnography, the great number of linguistic stocks which are found in this comparatively small territory and the singular manner in which they are distributed, especially the surprising variety of stocks clustered along the coast as contrasted with the wide sweep of the languages of the interior. All the languages of British Columbia have a peculiar phonology; their pronunciation is singularly harsh and indistinct; and it would appear that this is due mainly to climatic influences, for, south of the Columbia River, the harsh utterance suddenly ceases and gives place to softer sounds.

A paper by Mr. J. W. Fawcett was read on the religion of the Australian aborigines. The author stated that the Australians believe in a Creator, in a future life, and in good and

evil spirits. They have a strict sense of right and wrong, and have religious ceremonies, which are always held in secret on ground that is held very sacred, so much so that if it is touched by the foot of a white person it loses all sanctity.

Another paper by Mr. Fawcett was read on the aborigines of Australia, in which he traversed certain statements that have been made by Mr. Carl Lumholtz.

On Friday, September 5, Mr. F. W. Rudler, who, in the absence of Dr. Evans, presided over the Section, read a paper on the present aspect of the jade question.

It has long been known that implements worked in jade have occasionally been found in ancient graves in France and Western Germany, and in certain Neolithic stations on the Swiss lakes. Some of these implements are wrought in nephrite, or true jade, and others in jadeite. As neither of these minerals had been found *in situ* in Europe, while both were known to occur in Asia, it had been conjectured that the European jade implements must have had an Oriental source, and that either the implements themselves or the raw materials of which they were made had been brought to Europe in prehistoric times. But within the last few years Herr Traube, of Breslau, has discovered nephrite *in place* near Jordansmühl, and near Reichenstein, in Silesia. Pebbles of nephrite have also been recently recorded, by Dr. Berwerth, from the valleys of the Mur and the Sann, two rivers in Styria. A pebble believed to be of jadeite was found by M. Damour at Ouchy, on the Lake of Geneva, and the same mineral has been recorded from Monte Viso, in Piedmont.

Jade implements are found along the coast of British Columbia and Alaska, and it has been suggested that these, or the raw jade, had been obtained from Siberia, where the occurrence of nephrite is well known. Dr. G. M. Dawson has, however, recorded the discovery of small boulders of jade, partially worked, in the lower part of the Frazer River Valley; and Lieutenant Stoney has obtained the mineral *in situ* at the Jade Mountains in Alaska, 150 miles from above the mouth of the River Kowak.

The present aspect of the jade question is, therefore, quite different from that which it presented when the late Prof. H. Fischer and others strongly favoured the view that the jade implements of Europe and America had an exotic origin. In both these continents jade has now been found *in situ*, and it seems, therefore, probable that the material of the implements is indigenous, as maintained by Dr. A. B. Meyer for those of the Old World, and by Dr. Dawson, Prof. F. W. Clarke, Mr. G. F. Kunz, and others, for those of the New World. If future discoveries should confirm the indigenous view, the famous jade question will be lifted out of the domain of anthropology.

A paper entitled "Is there a Break in Mental Evolution?" was contributed by the Hon. Lady Welby. The introduction of the idea of "ghost" marks mental degeneration. If the idea of "spirit" had its origin in primitive man, it would have to undergo the most primitive tests, viz. *contact*, *odour*, and *flavour*. The author contended that we must either suppose an absolute break and reversal in the evolution of mind wherein a permanently distorted picture of the universe is created, and the real and significant suddenly abdicates in favour of the baseless and unmeaning; or, we must ask whether there is some reality answering to these crude conceptions, which thus form part of a continuous mental development, and may be described as faulty *translation*, rendered inevitable by the scantiness of primitive means of analysis and expression.

To adopt the first alternative is to strike a blow at the doctrine of continuous ascent in evolution: while the second might lead us to conclude that what we want is a greater power of interpreting primitive ideas as expressed in myth and ritual, notably in relation to recent developments and present researches in psychology itself and the psychological aspects of language.

Dr. Phené read a paper on an unidentified people occupying parts of Britain in pre-Roman-British times. From extensive investigations in France, Italy, &c., he showed that certain names and words continued from Britain to the Mediterranean along ancient routes of traffic, and the works and constructions along, and in connection with, the same routes, were so alike as to be identical in design. These constructors and merchants were not British, and the traffic appears carried back long prior to the time of Cæsar.

The other papers read were on the Yourouks of Asia Minor, by Mr. T. Bent; the Aryan cradle-land, by Mr. J. Stuart

Glennie; and reversions, by Miss Nina Layard. The Report of the Notes and Queries Committee was also presented.

On Monday, September 8, Dr. G. W. Hambleton read a paper on physical development, in which he described the results of a practical experiment in physical development which is being carried on at the Polytechnic Institution. Fifty per cent. of the 200 members of the author's Physical Development Society had obtained an increase of chest-girth of one inch and upwards, the average increase being a little less than two inches. In one case the increase was 6½ inches. The increase has taken place in small as well as in large chests, whether the men were tall or short, under or over twenty-one years of age, and with or without gymnastic training.

Dr. Munro described some archæological remains bearing on the question of the origin of the Anglo-Saxons in England. The relics in question have been recently brought to light on the coasts of Holland and North Germany, more especially in Friesland and the low-lying district northwards as far as the River Elbe, and show a remarkable similarity to Anglo-Saxon antiquities found in England. Dr. Munro also contributed a paper on prehistoric otter and beaver traps, in which he described some curious wooden machines which have been discovered in various peat bogs in different parts of Europe, and of which hitherto no satisfactory explanation has been offered.

Rev. E. Maule Cole read a paper on the Duggleby "Howe." This great mound on the Yorkshire wolds was opened by Mr. J. R. Mortimer on behalf of Sir Tatton Sykes in July last. The diameter of the mound was found to be over 120 feet, and the height was originally about 30 feet. In the process of excavation it turned out that there was an outer mound of rough chalk, of some 15 feet or more in thickness, surrounding an inner mound, and that the centres of the two did not exactly correspond. In the grit and lower clay were found fifty-three deposits of burnt human bones, but without any urns. Some beautiful flint weapons and tusks of the wild boar were discovered with human bodies in graves cut out of the solid rock.

Mr. J. R. Mortimer described a Romano-British graveyard in the parish of Wetwang-with-Fimber, which he believes to be the site of the long-lost Delgovitia.

Mr. Mortimer also contributed a paper on a supposed Roman camp at Octon, close to the road from York to the coast. The rectangular corners of the camp, and the width of the ditches (7½ feet) at the bottom, encourage the belief that this is not a British work, but Roman.

The other papers were on minute Neolithic implements, by Dr. H. C. March; indications of retrogression in prehistoric civilization in the Thames Valley, by Mr. H. Stopes; and a suggestion as to the boring of stone-hammers, by Mr. W. Horne.

On Tuesday, September 9, Dr. Wilberforce Smith read a paper on stethographic tracings of male and female respiratory movements. The investigation of the author, so far as it has yet proceeded, totally fails to confirm the view commonly put forth in physiological text-books that there is a natural difference between the sexes in regard to respiratory movements. Mr. W. F. Stanley exhibited and described a new spirometer, constructed upon the principle of the class of gas-meters used for testing. Dr. J. G. Garson contributed some notes on human remains found by General Pitt-Rivers, at Woodyates, Wiltshire. The measurements of the limb bones showed the stature of the persons to have been greater than that of those who were interred in Woodcuts and Rotherley. The characters of the skulls showed a considerable range of variation in size and proportion, indicating that they did not belong to a homogeneous people, but to individuals of mixed race. Variation was found not only in the facial portion, but also in the form of the calvaria. As far as the author was able to judge, the mixture is due to crossing between the Romans and the early dolichocephalic British race. There is no evidence of mixture arising from crossing between either of these races and the Celtic population.

The following papers were also read: Mr. B. Hollander, old and modern phrenology; Dr. Wilberforce Smith, diagrams for reading off indices; General Pitt-Rivers, excavation of the Wandsdyke at Woodyates; together with the report of the Anthropometric Laboratory Committee; report of the Prehistoric Inhabitants Committee; report of the Nomad Tribes of Asia Minor Committee; report of the North-Western Tribes of Canada Committee; and the report of the Indian Committee.